

WHAT IS CLAIMED IS:

1. A process comprising reducing a component selected from the group consisting of tungsten powders and molybdenum oxide powders, in the presence of alkali metal compounds, and preparing tungsten powder, molybdenum powder, mixtures thereof, or a carbide;  
5 wherein at least two alkali metal compounds are used in a ratio so that mixed alkali tungstate or molybdate formed in an intermediate step  $((\text{Li}, \text{Na}, \text{K})_2 \text{WO}_z, (\text{Li}, \text{Na}, \text{K})_2 \text{MoO}_z)$  has a melting point of less than about  $550^\circ\text{C}$ , wherein the value of  $z$  is from 3 to 4.
- 10 2. The process of Claim 1, wherein the component selected from the group consisting of tungsten powders and molybdenum oxide powders is subjected to a carburizing treatment.
- 15 3. The process according to Claim 1, wherein the alkali compounds are used in a total amount that ranges from about 0.2 to about 1.5 mole %, based on the tungsten and/or molybdenum oxide.
- 20 4. The process according to Claim 1, wherein the alkali compounds have a molar ratio of Na to Li of from about 0.9 to about 1.26 and wherein, in the further presence of a potassium compound, the potassium replaces Na and/or Li up to about 40 mole %.
- 25 5. The process according to Claim 1, wherein the alkali compounds are used in a mixed salt.
6. The process according to Claim 1, wherein the alkali compounds are selected from the group consisting of oxides, hydroxides, carbonates, tungstates and molybdates.
- 30 7. The process according to Claim 1, wherein the tungsten oxide powder is  $\text{WO}_3$  and the molybdenum oxide powder is  $\text{MoO}_3$ .
8. The process according to Claim 1, wherein the tungsten oxide powder is  $\text{WO}_2$  and the molybdenum oxide powder is  $\text{MoO}_2$ .
9. The process according to Claim 1, wherein the reducing treatment is carried out in an atmosphere containing hydrogen and/or carbon monoxide and/or hydrocarbon.

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10. A tungsten metal powder prepared according to Claim 1.
11. A molybdenum metal powder prepared according to Claim 1.
12. A tungsten carbide powder prepared according to Claim 1.
13. A tungsten carbide powder with an average particle size of  
5 >50  $\mu\text{m}$  FSSS.
14. The tungsten carbide of Claim 13, wherein the tungsten  
carbide is a sintered hardmetal or an infiltrated tool.

Parameter	Unit	Value
Temperature	°C	25.0
Pressure	atm	1.0
Flow rate	L/min	1.0
Sample concentration	mg/mL	1.0
Injection volume	μL	1.0
Column	μm	5.0
Mobile phase	g/L	1.0
Detection wavelength	nm	254
Retention time	min	10.0
Peak area	cm²	1.0
Peak height	cm	1.0
Peak width	cm	1.0
Peak asymmetry	-	1.0
Peak resolution	-	1.0
Peak purity	%	100.0
Peak identification	-	1.0
Peak name	-	1.0
Peak number	-	1.0
Peak label	-	1.0
Peak color	-	1.0
Peak font	-	1.0
Peak style	-	1.0
Peak size	-	1.0
Peak weight	-	1.0
Peak value	-	1.0
Peak total	-	1.0
Peak average	-	1.0
Peak minimum	-	1.0
Peak maximum	-	1.0
Peak range	-	1.0
Peak interval	-	1.0
Peak step	-	1.0
Peak end	-	1.0
Peak start	-	1.0
Peak middle	-	1.0
Peak quarter	-	1.0
Peak eighth	-	1.0
Peak sixteenth	-	1.0
Peak thirtysecond	-	1.0
Peak sixtyfourth	-	1.0
Peak onehundredth	-	1.0
Peak twohundredth	-	1.0
Peak fourhundredth	-	1.0
Peak eighthundredth	-	1.0
Peak one-thousandth	-	1.0
Peak two-thousandth	-	1.0
Peak four-thousandth	-	1.0
Peak eight-thousandth	-	1.0
Peak one-tenth	-	1.0
Peak one-hundredth	-	1.0
Peak one-thousandth	-	1.0
Peak one-tenth-thousandth	-	1.0
Peak one-hundred-thousandth	-	1.0
Peak one-millionth	-	1.0
Peak one-billionth	-	1.0
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